

HARDNESS CONVERSION TABLE

ROCKWELL			SUPERFICIAL ROCKWELL			BRINELL		VICKERS	ULTIMATE TENSILE STRENGTH		TENSILE STRENGTH
						10 mm Ball					
Diamond Brale		1/16" Ball	"N" Barle Penetrator			3000 kgm Load					
150 kgm c Scale	60 kgm A Scale	100 kgm D Scale	100 kgm B Scale	15 kg Load 15 N	30 kg Load 30N	45 kg Load 45N	Diam. Of Ball Impression in m/m	Hardness Number	Kg/mm sq	Strength n/mm sq	Equivalent 1000 lb. Sq. In.
80	92	87		97	92	87			1865		
79	92	86			92	87			1787		
78	91	85		96	91	86			1710		
77	91	84			85		1633				
76	90	83		96	90	84			1556		
75	90	83			83		1478				
74	89	82		95	89	82			1400		
73	89	81			81		1323				
72	88	80		95	87	80			1245		
71	87	80			79		1160				
70	87	79		94	86	78			1076		
69	86	78		94	85	77			1004		
68	86	77			79		942				
67	85	76		93	84	75		900	854		
66	85	76		93	83	73		865	854		
65	84	75		92	82	72	2.25	745	820		
64	84	74			74	2.30	710	789	88		
63	83	73		92	80	70	2.30	710	763		
62	83	73		91	79	69	2.35	682	746		
61	82	72		91	79	68	2.35	682	720		
60	81	71		90	78	67	20.40	653	697	229.2	2335.55
59	81	70		90	77	66	2.45	627	674	221.46	2256.68
58	80	69		89	76	65	2.55	578	653	214.43	2185.04
57	80	69		89	75	63	2.55	578	633	207.41	2113.51
56	79	68		88	74	62	2.60	555	613	201.78	2058.5
55	79	67		88	73	61	2.60	555	595	195.46	1993.6
54	78	66		87	72	60	2.65	534	577	189.13	1927.3
53	77	65		87	71	59	2.70	514	560	184.21	1879.9
52	77	65		86	70	57	2.75	495	544	177.80	1814.9
51	76	64		86	69	56	2.75	495	528	172.25	1756.9
50	76	63		86	69	55	2.80	477	513	168.04	1714.0
49	75	62		85	68	54	2.85	461	498	163.11	1663.7
48	75	61		85	67	53	2.90	444	484	158.19	1613.5
47	74	61		84	66	51	2.90	444	471	153.97	1570.4
46	73	60		84	65	50	2.95	432	458	149.05	1520.2
45	73	59		83	63	48	3.00	415	446	144.83	1477.2
44	73	59		83	63	48	3.00	415	434	141.33	1441.5
43	72	58		82	62	47	3.05	401	423	137.79	1405.4

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150 kgm c Scale	60 kgm A Scale	100 kgm D Scale	100 kgm B Scale	15 kg Load 15 N	30 kg Load 30N	45 kg Load 45N	Diam. Of Ball Impression in m/m	Hardness Number	kgm	Kg/mm sq	Strength n/mm sq	Equivalent 1000 lb. Sq. In.
42	72	57		82	61	46	3.10	388	412	134.28	1369.6	198
41	71	56		81	60	44	3.10	388	402	130.78	1297.8	191
40	70	55		80	60	43	3.15	375	392	127.24	1297.8	185
39	70	55		80	59	42	3.20	363	382	123.73	1262.0	181
38	69	54		79	58	41	3.25	352	372	120.82	1233.4	176
37	69	53	109	79	57	40	3.30	341	363	118.10	1204.6	171
36	68	52	108	78	55	37	3.35	3331	345	111.78	1140.1	168
35	68	52	108	78	55	37	3.35	331	345	108.26	1104	163
34	67	51	108	77	54	36	3.40	321	335	105.45	1075.5	159
33	69	50	107	77	53	38	3.45	311	327	102.61	1046	154
32	66	49	106	76	52	34	3.50	302	318	99.82	1017.1	150
31	66	48	106	76	51	33	3.55	293	310	97.01	989.5	146
30	65	48	105	75	50	32	3.60	285	302	94.20	959.9	142
29	65	47	104	75	50	30	3.65	277	294	92.00	938.0	138
28	64	46	103	74	49	29	3.70	269	286	89.28	909.8	134
27	64	45	103	73	48	28	3.75	262	279	87.17	889.1	131
26	63	45	102	73	47	27	3.80	255	272	85.06	866.15	126
25	63	44	101	72	46	26	3.80	255	266	82.95	846.1	124
24	62	43	100	72	45	24	3.85	248	260	80.84	825.2	122
23	62	42	99	71	44	23	3.90	241	254	79.70	812.9	118
22	62	42	99	71	43	22	3.95	235	248	77.34	788.8	116
21	61	41	98	70	42	21	4.00	229	243	74.52	760.1	113
20	61	40	97	69	42	20	4.05	223	238	71.70	731.3	111
18			95				4.10	217	230	68.90	701.8	107
16			94				4.15	212	222	66.08	674.3	102
14			92				4.25	203	213	63.27	645.3	98
12			90				4.35	192	204	61.16	623.8	92
10			89				4.40	187	195	56.24	573.6	90
8			87				4.50	179	187		87	
6*			85				4.60	170	180		83	
4*			84				4.65	166	173		79	
2*			82				4.80	156	166		77	
0*			81				4.80	149	156		73	
			79				4.90	149	156		73	
			77				5.00	143	150		70	
			74				5.10	137	143		67	

HARDNESS CONVERSION TABLE AND GUIDE TO HARDNESS TESTING OF STRIPS

GUIDE TO HARDNESS TESTING OF STRIPS

SPRING STEEL STRIPS Thickness in mm	Thickness 0.9 & above	Thickness 0.9 to 0.60	Thickness 0.6 & 0.40	Thickness 0.4 to 0.3	Thickness 0.3 to 0.25	Thickness 0.24 to 0.10
Oil tempered scale less EN-42J/C-80/C-98 Blue Tempered C-98	HV 100 C Scale	HV - 60 30 N	HV- 30 30 N	HV - 10 15 N	HV-5	HV-2
Cold Rolled Annealed EN-8EN-9/EN-45	HV 60 B Scale	HV-30 30T	HV- 15 15T	HV- 15 15T	HV-5	HV-1
Hard Rolled EN-8EN-9/EN-45	HV 100 C Scale	HV-60 30-N	HV-30 30-N	HV- 10 15-N	HV-5	HV-2

INSTRUCTIONS

B Scale: Use the A.B.C. Standard Rockwell Hardness Tester with a 100 kg load, 1/6" steel ball indenting tip and steel anvil.

C-Scale: Use the A.B.C. Standard Rockwell Hardness Tester with a 15 kg load the diamond point brale penetrator and the steel anvil.

30T-Scale: Use the Superficial Rockwell Hardness Tester with a 30 kg load, 1.16 steel ball indenting tip and either the diamond or the steel anvil.

HV - USE VICKERS HARDNESS TESTER

1KG - 100 KG LOAD SUFFIX INDICATES LOAD TO BE USED FOR TESTING.

30N Scale: Use the Superficial Rockwell Hardness Tester with a 30 kg load the diamond point N-Brale Penetrator and the steel anvil.

15T Scale: Use the Superficial Rockwell Hardness Tester with a kg load 1/16" steel ball penetrator and the diamond anvil.

15N-Scale: Use the Superficial Rockwell Hardness Tester with a 15 kg load the diamond point N-Brale penetrator and the steel anvil.